



UNITED STATES PATENT AND TRADEMARK OFFICE

KH

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,229	08/20/2001	Blue John Ramsey	78104.025	9574

7590 04/20/2004

DeWitt Ross & Stevens
Firstar Financial Centre
Suite 401
8000 Excelsior Drive
Madison, WI 53717-1914

EXAMINER

WONG, EDNA

ART UNIT PAPER NUMBER

1753

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/857,229

Applicant(s)

RAMSEY ET AL.

Examiner

Edna Wong

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,19-30,34 and 36-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34,38 and 42 is/are allowed.
- 6) ☒ Claim(s) 1,2,19-30,36,37,39-41 and 43-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

This is in response to the Amendment dated March 26, 2004. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

Claim Rejections - 35 USC § 102

Claim **34** has been rejected under 35 U.S.C. 102(b) as being anticipated by **JP 63-74681**.

The rejection of claim 34 under 35 U.S.C. 102(b) as being anticipated by JP 63-74681 has been withdrawn in view of Applicants' amendment.

Claim Rejections - 35 USC § 103

I. Claims **1 and 20-29** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Seeger, Jr. et al.** (US Patent No. 4,759,970) in combination with **WO 97/48257**.

The rejection of claims 1 and 20-29 under 35 U.S.C. 103(a) as being unpatentable over Seeger, Jr. et al. in combination with WO 97/48257 is as applied in the Office action dated November 6, 2003 and incorporated herein. The rejection has been maintained for the following reasons:

Applicants state that it is submitted that an ordinary artisan would see no benefit or advantage to modifying WO 97/48257 to add further conductive layers since the

functionality/purpose of such layers is already provided by the existing ink trace of WO 97/49257. In response, Seeger teaches pad printing a circuit trace and WO 97/48257 teaches lithographic printing a circuit trace. The Examiner deems that it would have been obvious to one having ordinary skill in the art to replace the pad printing of Seeger with the lithographic printing of WO 97/48257. It is the Seeger process that the ordinary artisan is modifying and this is the ground of rejection in the Examiner's Office Action.

Applicants state that from the cited references, lithography does not appear to apply ink layers which are sufficient to meet the desired thickness and plating standards sought by Seeger. Seeger in fact appears to specifically use pad printing because other processes do not yield the desired ink layer thickness. It is therefore submitted that an ordinary artisan who did not know of the claimed invention would not in fact be led by Seeger and WO 97/48257 (or any other reference) to construct the invention of claim 1, which explicitly recites lithographic deposition of the ink (seeding) layer, since lithography simply does not provide the thickness that Seeger describes as necessary. In response, WO 97/48257 teaches that the ink layers deposited by the preferred lithographic printing process are about 5 micrometers thick (page 4, lines 8-15). It appears from this teaching that lithographic printing produces ink layers having thicknesses lower than screen printing and laminating, which is overall, lower than 25 micrometers. Thus, it appears that lithography would have provided the thickness that Seeger describes as necessary. The disclosure of reference must be considered for

what it fairly teaches one of ordinary skill in the art, pertinence of non-preferred disclosure must be reviewed in such light. *In re Meinhardt* 157 USPQ 270; and MPEP § 2123.

Furthermore, claim 1, as presently written, does not require a specific seeding layer thickness. Therefore, Applicants' arguments of the seeding layer thickness do not distinguish claim 1 from the prior art. It is well settled that unpatented claims are given the broadest, most reasonable interpretation and that limitations are not read into the claims without a proper claim basis therefor. *In re Prater* 415 F. 2d 1393, 162 USPQ 541 (CCPA 1969); *In re Zeltz* 893 F. 2d 319, 13 USPQ 1320.

Applicants state that claims 26 and 27 recite plated layers which are far thinner than those noted in Seeger, and it does not appear that an ordinary artisan would believe that such thinner layers would be effective. In response, claim 1, as presently written, does not require a specific first electrically conducting layer thickness. Therefore, Applicants' arguments of the first electrically conducting layer thickness do not distinguish claim 1 from the prior art.

II. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Seeger, Jr. et al.** (US Patent No. 4,759,970) in combination with **WO 97/48257** as applied to claims 1 and 20-29 above, and further in view of **Haney et al.** (US Patent No. 4,411,980).

The rejection of claim 2 as being unpatentable over Seeger, Jr. et al. in combination with WO 97/48257 as applied to claims 1 and 20-29 above, and further in view of Haney et al. is as applied in the Office action dated November 6, 2003 and incorporated herein. The rejection has been maintained for the reasons as discussed above and incorporated herein.

Applicants' remarks have been fully considered but they are not deemed to be persuasive.

III. Claims **19 and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Seeger, Jr. et al.** (US Patent No. 4,759,970) in combination with **WO 97/48257** and **Haney et al.** (US Patent No. 4,411,980) as applied to claim 2 above, and further in view of **Brandt et al.** (US Patent No. 5,922,397).

The rejection of claims 19 and 30 under 35 U.S.C. 103(a) as being unpatentable over Seeger, Jr. et al. in combination with WO 97/48257 and Haney et al. as applied to claim 2 above, and further in view of Brandt et al. is as applied in the Office action dated November 6, 2003 and incorporated herein. The rejection has been maintained for the reasons as discussed above and incorporated herein.

Applicants' remarks have been fully considered but they are not deemed to be persuasive.

Claim Rejections - 35 USC § 112

I. Claims **36-37 and 43-47** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 36

lines 1-2, "with at least one electrically conducting layer situated thereon".

The words "at least one" include three electrically conducting layers. Applicants' specification does not disclose more than two electrically conducting layers, i.e., only one electrolessly deposited layer and one electroplated layer are disclosed.

Claim 37

lines 1-2, "with at least two or more stacked electrically conducting layers situated thereon".

The words "at least two or more" include three electrically conducting layers. Applicants' specification does not disclose more than two electrically conducting layers, i.e., only one electrolessly deposited layer and one electroplated layer are disclosed.

Claim 43

lines 2-3, "a thickness of less than about 5 microns".

Original claim 25 recites, "wherein the thickness of the seeding layer (i.e., the deposited ink) is from 3 to 5 microns". Applicants' specification does not disclose that the thickness of the seeding layer is below 3 microns (e.g., 1 micron) [see also Applicants' specification, page 5, lines 6-9].

II. Claims **39-41 and 44-47** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 39

lines 1-2, it is unclear how the claim limitation of "wherein an electrical component is attached to the first electrically conducting layer by means of a conductive polymer adhesive" further limits the composition of the ink in the parent claim because it makes no sense that the claim starts with an introduction of **"The lithographic ink of claim 38"** and ends with **"wherein an electrical component is attached to the first electrically conducting layer by means of a conductive polymer adhesive"**. The body of the claim has nothing to do with the claim's composition, but limits a process/intended use limitation (and not the ink's composition).

Claim 40

lines 1-2, it is unclear how the claim limitation of "wherein a second electrically conducting layer is electroplated atop the first electrically conducting layer" further limits

the composition of the ink in the parent claim because it makes no sense that the claim starts with an introduction of **"The lithographic ink of claim 38"** and ends with **"wherein a second electrically conducting layer is electroplated atop the first electrically conducting layer"**. The body of the claim has nothing to do with the claim's composition, but limits a process/intended use limitation (and not the ink's composition).

Claim 41

lines 1-2, it is unclear how the claim limitation of "wherein an electrical component is attached to the first or second electrically conducting layer by means of a conductive polymer adhesive" further limits the composition of the ink in the parent claim because it makes no sense that the claim starts with an introduction of **"The lithographic ink of claim 38"** and ends with **"wherein an electrical component is attached to the first or second electrically conducting layer by means of a conductive polymer adhesive"**. The body of the claim has nothing to do with the claim's composition, but limits a process/intended use limitation (and not the ink's composition).

Claim 44

line 1, it is unclear how the claim limitation of "wherein the substrate is a flexible polymer sheet" further limits the composition of the ink in the parent claim because it makes no sense that the claim starts with an introduction of **"The lithographic ink of**

claim 43" and ends with "**wherein the substrate is a flexible polymer sheet**". The body of the claim has nothing to do with the claim's composition, but limits a process/intended use limitation (and not the ink's composition).

Claim 46

lines 1-2, it is unclear how the claim limitation of "further comprising a second electrically conducting layer electroplated atop the first electrically conducting layer" further limits the composition of the ink in the parent claim because it makes no sense that the claim starts with an introduction of "**The lithographic ink of claim 44**" and ends with "**further comprising a second electrically conducting layer electroplated atop the first electrically conducting layer**". The body of the claim has nothing to do with the claim's composition, but limits a process/intended use limitation (and not the ink's composition).

Furthermore, how does the ink further comprise a second electrically conducting layer electroplated atop the first electrically conducting layer?

Claim 47

lines 1-2, it is unclear how the claim limitation of "wherein an electrical component is attached to the first or second electrically conducting layer by a conductive polymer adhesive" further limits the composition of the ink in the parent claim because it makes no sense that the claim starts with an introduction of "**The lithographic ink of claim 46**" and ends with "**wherein an electrical component**

is attached to the first or second electrically conducting layer by a conductive polymer adhesive". The body of the claim has nothing to do with the claim's composition, but limits a process/intended use limitation (and not the ink's composition).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

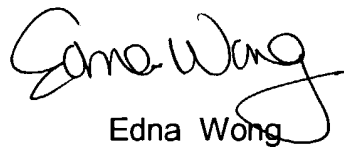
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 5:00 pm, alt. Fridays off.

Art Unit: 1753

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Edna Wong", with a stylized flourish at the end.

Edna Wong
Primary Examiner
Art Unit 1753

EW
April 19, 2004